We create chemistry

Safety data sheet

1. Substance/preparation and manufacturer/supplier identification

Product name:
Isononanol

Use: Chemical

Manufacturer/supplier:
BASF Vietnam Co. Ltd.
Level 23, Deutsches Haus, 33 Le Duan,
Sai Gon Ward, Ho Chi Minh City, Vietnam
Telephone: +84 28 3824 3833
Telefax number: +84 28 3824 3832
E-mail address: minh-triet.thieu@basf.com

Emergency information:
BASF Emergency Advice Number: 18001703 (within Vietnam)
International emergency number:
Telephone: +49 180 2273-112
Telefax number: +84 28 3824 3832

2. Hazard identification

Classification of the substance and mixture:
Flammable liquids: Cat.4
Acute toxicity: Cat.5 (oral)
Skin irritation: Cat.2
Serious eye damage: Cat.1
Hazardous to the aquatic environment - acute: Cat.2

Label elements and precautionary statement:

Pictogram:

Signal Word:
Danger

Hazard Statement:

H227	Combustible liquid.
H318	Causes serious eye damage.
H315	Causes skin irritation.
H303	May be harmful if swallowed.
H401	Toxic to aquatic life.

Precautionary Statements (Prevention):

P280	Wear protective gloves and eye protection or face protection.
P273	Avoid release to the environment.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P264	Wash contaminated body parts thoroughly after handling.

Precautionary Statements (Response):

P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER or physician.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P362 + P364	Take off contaminated clothing and wash it before reuse.
P370 + P378	In case of fire: Use … to extinguish.

Precautionary Statements (Storage):

P403	Store in a well-ventilated place.

Precautionary Statements (Disposal):

P501	Dispose of contents and container to hazardous or special waste collection point.

Other hazards which do not result in classification:
If applicable information is provided in this section on other hazards which do not result in classification but which may contribute to the overall hazards of the substance or mixture.
See section 12 - Results of PBT and vPvB assessment.

3. Composition/information on ingredients

Chemical nature

Substance nature: Substance

isononyl alcohol
CAS Number: 27458-94-2

Hazardous ingredients

isononyl alcohol

Content (W/W): >= 100 % - <= 100 %	Flam. Liq.: Cat. 4
CAS Number: 27458-94-2	Acute Tox.: Cat. 5 (oral)
	Skin Irrit.: Cat. 2
	Eye Dam.: Cat. 1
	Aquatic Acute: Cat. 2

4. First-Aid Measures

General advice:
Remove contaminated clothing.

If inhaled:
Keep patient calm, remove to fresh air, seek medical attention. Immediately administer a corticosteroid from a controlled/metered dose inhaler.

On skin contact:
Immediately wash thoroughly with plenty of water, apply sterile dressings, consult a skin specialist.

On contact with eyes:
Immediately wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist.

On ingestion:
Immediately rinse mouth and then drink 200-300 ml of water, seek medical attention.

Note to physician:
Symptoms: Information, i.e. additional information on symptoms and effects may be included in the GHS labeling phrases available in Section 2 and in the Toxicological assessments available in Section 11.
Hazards: No hazard is expected under intended use and appropriate handling.
Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

5. Fire-Fighting Measures

Suitable extinguishing media:
dry powder, water spray, carbon dioxide, alcohol-resistant foam

Unsuitable extinguishing media for safety reasons:
water jet

Additional information:
Use extinguishing measures to suit surroundings.

Specific hazards:
The product is combustible. Cool endangered containers with water-spray. See SDS section 7 - Handling and storage.

Special protective equipment:
Wear a self-contained breathing apparatus. Special protective equipment for firefighters

Further information:
Evacuate area of all unnecessary personnel. Fight fire from maximum distance.

Further information:
Extend fire extinguishing measures to the surroundings. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

6. Accidental Release Measures

Personal precautions:
Handle in accordance with good industrial hygiene and safety practice.

Avoid contact with the skin, eyes and clothing.

Take off immediately all contaminated clothing.

Environmental precautions:
Discharge into the environment must be avoided.

Methods for cleaning up or taking up:
Pick up with suitable appliance and dispose of. Spills should be contained, solidified, and placed in suitable containers for disposal. Dispose of absorbed material in accordance with regulations.

Additional information: High risk of slipping due to leakage/spillage of product.

Shut off or stop source of leak. Shut off or stop released substance/product under safe conditions.

Pack in tightly closed containers for disposal.

7. Handling and Storage

Handling

Handle in accordance with good industrial hygiene and safety practice.

Protection against fire and explosion:
No special precautions necessary. Substance/product is non-flammable.

Storage

Further information on storage conditions: Containers should be stored tightly sealed in a dry place.

Protect from temperatures above: 100 °C
Damage by exceeding the maximum temperature is not reversible. The packed product must be protected against exceeding the indicated temperature.

8. Exposure controls and personal protection

Components with occupational exposure limits

No occupational exposure limits known.

Personal protective equipment

Respiratory protection:
Wear respiratory protection if ventilation is inadequate. Gas filter for gases/vapours of organic compounds (boiling point >65 °C, e. g. EN 14387 Type A)

Hand protection:
Chemical resistant protective gloves (EN ISO 374-1)
Suitable materials also with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN ISO 374-1):
butyl rubber (butyl) - 0.7 mm coating thickness
Manufacturer's directions for use should be observed because of great diversity of types.
Supplementary note: The specifications are based on tests, literature data and information of glove manufacturers or are derived from similar substances by analogy. Due to many conditions (e.g. temperature) it must be considered, that the practical usage of a chemical-protective glove in practice may be much shorter than the permeation time determined through testing.

Eye protection:
Tightly fitting safety goggles (splash goggles) (e.g. EN 166)

Body protection:
Body protection must be chosen depending on activity and possible exposure, e.g. apron, protecting boots, chemical-protection suit (according to EN 14605 in case of splashes or EN ISO 13982 in case of dust).

General safety and hygiene measures:
Handle in accordance with good industrial hygiene and safety practice. Wearing of closed work clothing is required additionally to the stated personal protection equipment.

9. Physical and Chemical Properties

Form:	liquid	
Colour:	colourless	
Odour:	faint odour	
Odour threshold:	not determined	
pH value:	7.0	
Melting point:	< -100 °C (approx. 999 hPa)	(measured)
Boiling point:	202.71 °C (1,013 hPa)	(measured)
Flash point:	93 °C	(DIN 51755, closed cup)
Evaporation rate:	Value can be approximated from Henry's Law Constant or vapor pressure.	
Flammability (solid/gas):	hardly combustible	(derived from flash point)

Lower explosion limit:	For liquids not relevant for classification and labelling., The lower explosion point may be 5 - 15 °C below the flash point.	
Upper explosion limit:	For liquids not relevant for classification and labelling.	
Ignition temperature:	280 °C	(Directive 84/449/EEC, A.15)
Thermal decomposition:	No decomposition if stored and handled as prescribed/indicated.	
Self ignition:	not self-igniting	Test type: Spontaneous self-ignition at room-temperature.
Explosion hazard:	Based on the chemical structure there is no indication of explosive properties.	
Fire promoting properties:	Based on its structural properties the product is not classified as oxidizing.	(other)
Vapour pressure:	approx. 0.026 hPa (20 °C) dynamic	(measured)
Density:	0.83 g/cm3 (20 °C)	(DIN 53217)
Relative density:	approx. 0.83 (20 °C)	(Directive 92/69/EEC, A.3)
Relative vapour density (air):	4.97 (20 °C) Heavier than air.	(calculated)
Solubility in water:	approx. 245 mg/l (20 °C)	
Solubility (qualitative) solvent(s):	organic solvents soluble	
Solubility (quantitative) :	No applicable information available.	
Partitioning coefficient n-octanol/water (log Pow):	3.8 (26 °C; pH value: approx. 6.5)	(Directive 84/449/EEC, A.8)
Adsorption/water - soil:	KOC: 148; log KOC: 2.17 Adsorption to solid soil phase is possible.	(OECD Guideline 121)
Surface tension:	approx. 38.6 mN/m (20 °C; 0.221 g/l)	(OECD Guideline 115, OECD harmonized ring method)
Viscosity, dynamic:	12.95 mPa.s (20 °C) The value was determined by calculation from the detected kinematic viscosity.	

Viscosity, kinematic:	approx. 15.8 mm2/s (20 °C)	(OECD Guideline 114)
Molar mass:	144.26 g/mol	

Particle characteristics

Particle size distribution: The substance / product is marketed or used in a non solid or granular form. -

10. Stability and Reactivity

Conditions to avoid:
No special precautions other than good housekeeping of chemicals.

Thermal decomposition: No decomposition if stored and handled as prescribed/indicated.

Substances to avoid:
strong oxidizing agents

Corrosion to metals: Corrosive effects to metal are not anticipated.

Hazardous reactions:
Reacts with strong oxidizing agents.

Hazardous decomposition products:
No hazardous decomposition products if stored and handled as prescribed/indicated.

Chemical stability:
The product is stable if stored and handled as prescribed/indicated.

Reactivity:
No hazardous reactions if stored and handled as prescribed/indicated.

11. Toxicological Information

Routes of exposure

Acute oral toxicity

Experimental/calculated data:
LD50rat (oral): 3,950 mg/kg (OECD Guideline 401)

Acute inhalation toxicity

LC50 rat (by inhalation): > 21.7 mg/l 7 h (BASF-Test)
No mortality was observed. An aerosol was tested.

Acute dermal toxicity

LD50 rat (dermal): > 4,000 mg/kg (OECD Guideline 402)

Assessment of acute toxicity

Of low toxicity after single ingestion. Virtually nontoxic after a single skin contact. Virtually nontoxic by inhalation.

Symptoms

Information, i.e. additional information on symptoms and effects may be included in the GHS labeling phrases available in Section 2 and in the Toxicological assessments available in Section 11.

Irritation

Assessment of irritating effects:
Skin contact causes irritation. May cause severe damage to the eyes.

Experimental/calculated data:
Skin corrosion/irritation rabbit: Irritant. (OECD Guideline 404)

Serious eye damage/irritation rabbit: irreversible damage (OECD Guideline 405)

Respiratory/Skin sensitization

Assessment of sensitization:
Skin sensitizing effects were not observed in animal studies.

Experimental/calculated data:
Buehler test guinea pig: Non-sensitizing. (OECD Guideline 406)

Germ cell mutagenicity

Assessment of mutagenicity:
The substance was not mutagenic in bacteria. The chemical structure does not suggest a specific alert for such an effect.

Carcinogenicity

Assessment of carcinogenicity:
No data available concerning carcinogenic effects. The chemical structure does not suggest a specific alert for such an effect.

Reproductive toxicity

Assessment of reproduction toxicity:
No data available. The chemical structure does not suggest a specific alert for such an effect.

Developmental toxicity

Assessment of teratogenicity:
Animal studies gave no indication of a developmental toxic effect at doses that were not toxic to the parental animals.

Specific target organ toxicity (single exposure)

Based on the available information there is no specific target organ toxicity to be expected after a single exposure.

Repeated dose toxicity and Specific target organ toxicity (repeated exposure)

Assessment of repeated dose toxicity:
Repeated oral uptake of the substance did not cause substance-related effects.

Aspiration hazard

No aspiration hazard expected.

12. Ecological Information

Ecotoxicity

Assessment of aquatic toxicity:
Acutely toxic for aquatic organisms. The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations.

Toxicity to fish:
LC50 (96 h) 11 mg/l, Cyprinus carpio (OECD 203; ISO 7346; 84/449/EWG, C.1, semistatic)
The statement of the toxic effect relates to the analytically determined concentration.

Aquatic invertebrates:
EC50 (48 h) 9 mg/l, Daphnia magna (OECD Guideline 202, part 1, static)
The statement of the toxic effect relates to the analytically determined concentration.

Aquatic plants:
EC50 (72 h) 11 mg/l (growth rate), Desmodesmus subspicatus (Guideline 92/69/EEC, C.3)
The statement of the toxic effect relates to the analytically determined concentration.

Microorganisms/Effect on activated sludge:
EC10 (6 h) 114.5 mg/l, Pseudomonas putida (DIN EN ISO 10712)

Chronic toxicity to fish:
No data available regarding toxicity to fish.

Chronic toxicity to aquatic invertebrates:
No data available regarding toxicity to daphnids.

Assessment of terrestrial toxicity:
No data available concerning terrestrial toxicity.
No data available concerning terrestrial toxicity.

Mobility

Assessment transport between environmental compartments:
The substance will slowly evaporate into the atmosphere from the water surface.
Adsorption to solid soil phase is possible.

Persistence and degradability

Elimination information:
79 % CO2 formation relative to the theoretical value (28 d) (OECD 301B; ISO 9439; 92/69/EWG, C.4-C) (aerobic, activated sludge, domestic)

Assessment of stability in water:
According to structural properties, hydrolysis is not expected/probable.

Bioaccumulation potential

Assessment bioaccumulation potential:
Significant accumulation in organisms is not to be expected.

Bioaccumulation potential:
Bioconcentration factor: < 100 (14 d), Oncorhynchus mykiss (OECD Guideline 305 E)
The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Other adverse effects

Adsorbable organically-bound halogen (AOX):
This product contains no organically-bound halogen.

Additional information

Other ecotoxicological advice:
No data available.

13. Disposal Considerations

Information on disposal regulations: Must comply with regulations on hazardous waste such as:

- Decree No. 08/2022/ND-CP of the Government: detailing a number of articles of the Law on Environmental Protection.

- Circular No. 02/2022/TT-BTNMT of the Ministry of Natural Resources and Environment: detailing a number of articles of the Law on Environmental Protection.

Dispose of in accordance with national, state and local regulations.

Contaminated packaging:
Disposal must be made according to official regulations.

14. Transport Information

Domestic transport:

	Not classified as a dangerous good under transport regulations
UN number or ID number	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable

Environmental hazards:	Not applicable
Special precautions for user	None known

Sea transport
IMDG

	Not classified as a dangerous good under transport regulations
UN number or ID number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable Marine pollutant: no
Special precautions for user	None known

Air transport
IATA/ICAO

	Not classified as a dangerous good under transport regulations
UN number or ID number	Not applicable
Proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

Maritime transport in bulk according to IMO instruments

Regulation:	IBC-Code
Product name:	Nonyl alcohol (all isomers)
Pollution category:	Y
Ship Type:	2

15. Regulatory Information

Other regulations

Legal information on safety, health and environment for chemicals:
Law on Chemicals No. 06/2007/QH12

Chemical Safety Sheets (SDS) are compiled in accordance with international regulations on chemical classification and labelling (GHS) as well as relevant applicable legal regulations:
- QCVN 05A:2020/BCT National Technical Regulation on safety in production, trading, use, preservation and transportation of hazardous chemicals.
- Amendment 1:2024 QCVN 05A:2020/BCT National technical regulation on safety in production, trading, use, preservation and transportation of hazardous chemicals.
- Decree No. 113/2017/ND-CP dated 09/10/2017 of the Government detailing and guiding the implementation of a number of articles of the Law on Chemicals;
- Circular No. 32/2017/TT-BCT dated 28/12/2017 of the Ministry of Industry and Trade specifying and guiding the implementation of a number of articles of the Law on Chemicals and Decree No. 113/2017/ND-CP dated 09/10/2017 of the Government detailing and guiding the implementation of a number of articles of the Law on Chemicals;
- Decree No. 82/2022/ND-CP dated October 18, 2022 of the Government amending and supplementing a number of articles of the Government's Decree No. 113/2017/ND-CP dated October 09, 2017 detailing and guiding the implementation of a number of articles of the Law on Chemicals
- Circular No. 17/2022/TT-BCT dated October 27, 2022 of the Ministry of Industry and Trade amending and supplementing a number of articles of Circular No. 32/2017/TT-BCT dated December 28, 2017 of the Minister of Industry and Trade specifying and guiding the implementation of a number of articles of the Law on Chemicals and the Government's Decree No. 113/2017/ND-CP dated October 09, 2017 detailing and guiding the exam a number of articles of the Law on Chemicals
- Decree No. 161/2024 ND-CP dated December 18, 2024 of the Government regulating the list of dangerous goods, transportation of dangerous goods and the order and procedures for issuance of licenses and certificates of completion of training programs for drivers or escorts transporting dangerous goods on roads;
- Decree 34/2024/ND-CP dated 31/03/2024 regulating the list of dangerous goods, transporting dangerous goods by road motor vehicles and inland waterway vehicles
- Circular No. 37/2020/TT-BCT dated 30/11/2020 of the Ministry of Industry and Trade stipulating the list of dangerous goods that must be packed in the process of transporting and transporting dangerous goods by road, railway and inland waterway motor vehicles.
- Decree No. 71/2019/ND-CP dated August 30, 2019 of the Government stipulating the sanctioning of administrative violations in the field of chemicals and industrial explosives.

If other regulatory information applies that is not already provided elsewhere in this safety data sheet, then it is described in this subsection.

16. Other Information

Vertical lines in the left hand margin indicate an amendment from the previous version.

The data contained in this safety data sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. This safety data sheet is neither a Certificate of Analysis (CoA) nor technical data sheet and shall not be mistaken for a specification agreement. Identified uses in this safety data sheet do neither represent an agreement on the corresponding contractual quality of the substance/mixture nor a contractually designated use. It is the responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed.